REMARKS

Upon entry of the foregoing Amendment, claims 1-2, 4, 6-8, 10-39, 41-43, and 57-72 are pending in the application. Claims 1-2, 6, 10-12, 24, 26, 28, 30-31, 42, and 58-62 have been amended. No claims have been cancelled. Claims 63-72 have been newly added. Applicants believe that this Amendment does not add new matter. In view of the foregoing Amendment and the following Remarks, allowance of all the pending claims is requested.

CLAIM OBJECTIONS

The Examiner has objected to claim 29 because of alleged informalities. In particular, the Examiner has objected to claim 29 for allegedly "being dependent upon an independent claim that is rejected under 35 U.S.C. 101, however, claim 29 would overcome this rejection if amended to include all of the limitations of its parent claims because it includes physical hardware." Office Action, pages 6-7.

As an initial matter, Applicants note that the Examiner appears to have mistakenly indicated that claim 29 depends upon an independent claim rejected under 35 U.S.C. § 101. That is, claim 29 depends from independent claim 28, but the rejection under 35 U.S.C. § 101 does not allege that claim 28 or any of the claims dependent thereon are subject to the rejection. *See* Office Action, pages 9-10. Accordingly, for at least this reason, the basis for the objection to claim 29 as allegedly "being dependent upon an independent claim that is rejected under 35 U.S.C. 101" appears to be improper.

Additionally, the Examiner appears to have improperly indicated that "claim 29 would overcome this rejection if amended to include all of the limitations of its parent claims," for a fundamental principle of claim construction is that dependent claims include all of the features of the claims from which they depend. *See* 37 C.F.R. § 1.75(c). Thus, because claim 29 already includes "all of the limitations" of parent independent claim 28, the basis for the objection to claim 29 appears to be further improper for at least this reason.

Accordingly, for at least the reason that the basis for the objection to claim 29 appears to rest on a factually incorrect basis and a legally incorrect standard of claim construction, Applicants request that the Examiner withdraw this objection to claim 29.

Furthermore, Applicants note that although the Examiner discusses claims 1-2, 4, 6-7, 10-27, and 57-62 under the "***Claim Objections***" heading in the Office Action, the Examiner has not indicated that claims 1-2, 4, 6-7, 10-27, and 57-62 are objected to for alleged informalities. Nonetheless, Applicants note that the Examiner has inquired as to whether the "various steps/elements 'configured to' perform certain functions . . . are part of the claim because they are not positively recited only 'configured to' perform them." Office Action, page 6.

In particular, Applicants submit that the various features reciting components "configured to" perform certain functions are indeed positively recited, for the functions are recited as specific features that the various components are configured to carry out. As such, Applicants submit that the Examiner has correctly indicated that "[t]hese functions will be considered as actively performed." Office Action, page 6.

Accordingly, for at least the reason that the basis for the Examiner's discussion of claims 1-2, 4, 6-7, 10-27, and 57-62 under the "***Claim Objections***" heading, Applicants request that the Examiner provide confirmation that these claims are not objected to for alleged informalities in the next Office Action.

NON-STATUTORY DOUBLE PATENTING REJECTION

The Examiner has rejected claims 1 and 28 under the judicially created doctrine of non-statutory obviousness-type double patenting, as allegedly being unpatentable over claim 1 of U.S. Patent No. 7,398,209 in view of "A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History to Lin et al. ("Lin").

Applicants will consider filing a terminal disclaimer to overcome this rejection once otherwise patentable subject matter has been determined. Furthermore, Applicants note that the filing of a terminal disclaimer to obviate a rejection based on non-statutory double patenting does not constitute an admission of the propriety of the rejection. *See Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870 (Fed. Cir. 1991).

REJECTION UNDER 35 U.S.C. § 101

The Examiner has rejected claims 1-2, 4, 6-8, 10-27, and 57-62 under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. In particular, the Examiner alleges that "although **claim(s) 1 and its associated dependent claims** appear to fall within a statutory category *(i.e., apparatus)*, these claim(s) encompass nothing more than logic/software module as per the specification." Office Action, pages 9-10 (emphasis in original).

Solely for purposes of expediting prosecution of this application, and without acknowledging the propriety of the alleged basis for the rejection, Applicants have amended independent claim 1 to further clarify that the claims recite statutory subject matter. For example, amended independent claim 1 recites, among other things, "a speech unit" and "a natural language processing system" that are "connected to a computer device on a vehicle."

Accordingly, for at least the reason that independent claim 1 and the claims dependent thereon have been amended to recite structural and functional interrelationships with hardware components that permit the functionality to be realized, Applicants request that the Examiner withdraw this rejection of the claims.

REJECTION UNDER 35 U.S.C. § 103

1. CLAIMS 1-2, 4, 6, 13, 15-17, 22-23, 27-28, 31-32, 41, AND 57-62

The Examiner has rejected claims 1-2, 4, 6, 13, 15-17, 22-23, 27-28, 31-32, 41, and 57-62 under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent No. 6,615,172 to Bennett et al. ("Bennett") in view of "A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History to Lin et al. ("Lin"). This rejection is improper for at least the reason that Bennett and Lin, either alone or in combination, fail to disclose, teach, or suggest each and every feature of the claimed invention.

More particularly, neither Bennett nor Lin, either alone or in combination, disclose, teach, or suggest at least the feature of "a speech recognition engine configured to recognize at least one of words or phrases from the electronic signal using at least the data received from the plurality of domain agents, wherein the data used by the speech recognition engine

includes a plurality of dictionary and phrase entries that are dynamically updated based on at least a history of a current dialog and one or more prior dialogs associated with the user," as recited in independent claim 1, for example.

The Examiner alleges that Bennett discloses a "speech recognizer for recognizing query words/phrases that relies on context data from different domains." The Examiner further alleges that Bennett "teaches an acoustic recognition dictionary that varies based on a current dialog context," and further that "Bennett teaches that based upon user's state and context during an interactive session, grammars and dictionaries are dynamically loaded into a speech recognizer." Office Action, pages 3 and 11. However, although Bennett generally indicates that "specific grammars are dynamically loaded or actively configured as the current grammar according to the user's context," Bennett nonetheless fails to disclose, teach, or suggest dynamically updating "a plurality of dictionary and phrase entries [used by the speech recognition engine] based on at least a history of a current dialog and one or more prior dialogs associated with the user."

That is, even assuming *arguendo* that the Examiner has correctly characterized Bennett as loading grammars to the speech recognition engine based on the user's current context (or dialog), Bennett does not disclose, teach, or suggest further updating the information used by the speech recognizer based on a history of one or more ***prior*** dialogs associated with the user. For example, Bennett specifically states that the grammars used in the speech recognition process are discarded once recognition of the current user utterance has completed. In particular, Bennett indicates that "[o]nce the user's speech is recognized, . . . the speech engine is un-initialized," wherein un-initialization includes deleting "all the objects created" when the speech recognition engine was initialized, and further clearing all memory allocated when the speech recognition engine was initialized.

Thus, because Bennett flushes the data used by the speech recognition engine when recognition for a current utterance is complete, Bennett necessarily fails to dynamically update the data used in the speech recognition engine based on both the current dialog and one or more prior dialogs. In particular, if the data used by the speech recognition engine is deleted after recognition of the current utterance has completed, at best, the data that the speech

recognition engine in Bennett uses could only be updated based on a history of a current dialog. In contrast, independent claim 1 recites that "the data used by the speech recognition engine includes a plurality of dictionary and phrase entries that are dynamically updated based on at least a history of a current dialog ***and*** one or more prior dialogs."

Furthermore, to the extent that the Examiner alleges that "[t]here is no mention in Bennett that this status/context history is deleted upon recognition," Applicants note that the Examiner nonetheless has the burden of establishing that the references relied upon disclose, teach, or suggest using the status/context history from the current dialog and prior dialogs to dynamically update the data used by the speech recognition engine. In the absence of such a disclosure, teaching, or suggestion, the mere possibility that such data may exist is insufficient to meet the requisite burden. Accordingly, for at least the foregoing reasons, Bennett fails to disclose, teach, or suggest at least the foregoing feature recited in independent claim 1.

Lin fails to cure the foregoing deficiency of Bennett for at least the reason that the Examiner only relies upon "Bennett . . . for the domain-dependent speech recognition." Office Action, page 3. Furthermore, for at least the reasons Applicants have previously noted, Lin specifically describes speech recognition as a domain-independent procedure that does not utilize dialogue state and history information. Therefore, for at least the foregoing reasons, Bennett and Lin, either alone or in combination, fail to disclose, teach, or suggest at least the foregoing feature recited in independent claim 1. The rejection is therefore improper and should be withdrawn.

In addition to the reasons given above, neither Bennett nor Lin, either alone or in combination, disclose, teach, or suggest at least the feature of "an agent architecture configured to communicatively couple services of each of an agent manager, a system agent, the plurality of domain agents, and an agent library that includes one or more utilities that can be used by the system agent and the plurality of domain agents," as recited in independent claim 1, for example. The Examiner alleges that "Lin does teach the complete agent architecture" recited in the claims. To support this allegation, the Examiner alleges that Lin describes "a user interface agent manager that corresponds to the claimed agent manager," "a facilitator/switcher that . . . corresponds to the claimed system agent," "a plurality of spoken

dialog agents . . . that correspond to the claimed plurality of domain agents," and "a database accessible by the agents."

Even assuming *arguendo* that the Examiner has correctly characterized Lin (which Applicants do not concede), the rejection is facially improper because the agent architecture recited in independent claim 1 includes specific components that the Examiner has not even alleged Lin to disclose, teach, or suggest. For example, in addition to an agent manager, a system agent, and a plurality of domain agents, the claimed agent architecture further recites "an agent library," which may include one or more utilities that can be used by the system agent and the plurality of domain agents. As such, because the Examiner has failed to allege, let alone establish, that the references relied upon disclose, teach, or suggest each and every feature of the claimed agent architecture, the rejection is improper and should be withdrawn.

As such, for at least the foregoing reasons, Bennett and Lin, either alone or recited in independent claim 1, for example. The rejection is therefore further improper and should be withdrawn for at least this additional reason.

Independent claim 28 includes features similar to those set forth in independent claim 1. Dependent claims 2, 4, 6, 13, 15-17, 22-23, 27, 31-32, 41, and 57-62 depend from and add features to one of independent claims 1 and 28. Thus, the rejection of these claims is likewise improper and must be withdrawn for at least the same reasons.

2. CLAIM 2

In addition to the above-discussed distinctions regarding independent claim 1, neither Bennett nor Lin, either alone or in combination, disclose, teach, or suggest at least the feature of "an event manager configured to . . . provide a multi-threaded environment configured to enable the natural language speech processing system to provide a plurality of real-time responses to a plurality of questions or commands in a plurality of different contexts across a plurality of overlapping or interleaved sessions with the user," as recited in claim 2, for example. The Examiner alleges that "it is the facilitator that corresponds to event manager, but works in combination with the user interface as one of its components." Office Action, page 6.

However, although Lin generally describes a system that can support multiple different domains "to maintain consistent dialogue across concurrent topics," Lin does not disclose, teach, or suggest that the system includes "a multi-threaded environment configured to enable the natural language speech processing system to provide a plurality of real-time responses to a plurality of questions or commands in a plurality of different contexts across ***a plurality of overlapping or interleaved sessions*** with the user." Rather, Lin describes a system in which only one domain can be active at any given time, with concurrent domains only being supported through a domain switching protocol that transfers dialogue state and history information. *See* Lin, Section 3. Thus, the system described in Lin would not be able to provide real-time responses to a plurality of questions or commands in various different contexts "across a plurality of overlapping or interleaved user sessions." Instead, because Lin can only support multiple concurrent sessions using the domain switching protocol, Lin cannot provide real-time responses across all of the overlapping sessions because "the dialogue state and history is no longer stored in the SDA after it is disconnected." Lin, Section 3.1. Bennett fails to cure at least this deficiency of Lin.

Therefore, for at least the reasons given above, Bennett and Lin, either alone or in combination, fail to disclose, teach, or suggest at least the feature of "an event manager configured to . . . provide a multi-threaded environment configured to enable the natural language speech processing system to provide a plurality of real-time responses to a plurality of questions or commands in a plurality of different contexts across a plurality of overlapping or interleaved sessions with the user," as recited in claim 2, for example. The rejection is therefore improper and should be withdrawn.

3. CLAIMS 7-8, 10-12, 14, 18-21, 24-26, 29-30, 33-39, AND 42-43

The Examiner has also rejected each of claims 7-8, 10-12, 14, 18-21, 24-26, 29-30, 33-39 and 42-43 under 35 U.S.C. § 103 as allegedly being unpatentable over the combination of Bennett and Lin, and further in view of one or more additional references. In particular, the Examiner has rejected (1) claims 7-8, 10-12, 30, and 38-39 over Bennett in view of Lin, and further in view of U.S. Patent No. 6,937,977 to Gerson ("Gerson"), (2) claims 14 and 33-37 over

Bennett in view of Lin, and further in view of U.S. Patent No. 6,185,535 to Hedin et al. ("Hedin"), (3) claims 18, 20-21, and 29 over Bennett in view of Lin, and further in view of U.S. Patent No. 6,420,975 to DeLine et al. ("DeLine"), (4) claims 19 and 38-39 over Bennett in view of Lin and further in view of DeLine and yet further in view of Gerson, and (5) claims 24-26 and 42-43 over Bennett in view of Lin and further in view of U.S. Patent No. 6,980,092 to Turnbull et al. ("Turnbull"). Each of these rejections are improper for at least the reason that the references relied upon, either alone or in combination, fail to disclose, teach, or suggest each and every feature of the claimed invention.

More particularly, for at least the reasons discussed above, neither Bennett nor Lin, either alone or in combination, disclose, teach, or suggest at least the features of "a speech recognition engine configured to recognize at least one of words or phrases from the electronic signal using at least the data received from the plurality of domain agents, wherein the data used by the speech recognition engine includes a plurality of dictionary and phrase entries that are dynamically updated based on at least a history of a current dialog and one or more prior dialogs associated with the user," as recited in independent claim 1, for example.

Moreover, for at least the further reasons discussed above, neither Bennett nor Lin, either alone or in combination, disclose, teach, or suggest at least the features of "an agent architecture configured to communicatively couple services of each of an agent manager, a system agent, the plurality of domain agents, and an agent library that includes one or more utilities that can be used by the system agent and the plurality of domain agents," as recited in independent claim 1, for example.

Each of Gerson, Hedin, DeLine, and Turnbull fail to cure at least the foregoing deficiencies of the combination of Bennett and Lin. Accordingly, for at least the foregoing reasons, the references relied upon, either alone or in combination, fail to disclose, teach, or suggest each and every feature recited in independent claim 1.

Independent claim 28 includes features similar to those set forth in independent claim 1. Dependent claims 7-8, 10-12, 14, 18-21, 24-26, 29-30, 33-39, and 42-43 depend from and add features to one of independent claims 1 and 28. Thus, the rejections of these claims are improper and should be withdrawn for at least the foregoing reasons.

NEW CLAIMS 63-72

As indicated above, the Examiner has failed to establish that the references relied upon, either alone or in combination, disclose, teach, or suggest each and every feature of amended independent claim 28. New claims 63-72 depend from and add features to amended independent claim 28. Thus, newly added claims 63-72 are allowable over the references relied upon for at least the same reasons discussed in further detail above.

CONCLUSION

Having addressed each of the foregoing rejections, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action. As such, the application is in condition for allowance. Notice to that effect is respectfully requested.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Date: **June 16, 2009**

Respectfully submitted,

By: _____

Syed Jafar Ali
Registration No. 58,780

PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. Box 10500
McLean, Virginia 22102
Main: 703-770-7900
Direct: 703-770-7540
Fax: 703-770-7901